Metal-munching bacteria may help clean up mine

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Associated Press

MINTURN — Metal-eating bacteria isolated by Colorado School of Mines professors may be used to help clean up pollution at the old Eagle Mine, where problems prompted citizens to file a $300 million lawsuit last summer.

Ron Cohen, professor of environmental science at Mines, said he and other scientists identified the bacteria — desulfo vibrio and desultofo maculum — while investigating the ability of wetlands to recover from mine tailings. The bacteria thrive on metals and change toxic mine tailings to relatively harmless material.

"At first people thought it was the wetlands themselves, but later we identified the bacteria to be sulfate reducers," he said.

They tested a process employing the bacteria at a pilot project at the Five-Mile Mine in Idaho Springs for more than three years, and "it doesn't show any sign of running out of steam," said Cohen.

"The system will remove better than 99 percent of many metals, including zinc, cadmium and lead," Cohen said.

Results have been so promising that Eagle Mine cleanup engineers Dames & Moore are studying a proposal from Cohen for an organic treatment system for the cleanup of the old gold mine.

"If they approve it, we could begin some work this fall," Cohen said. "We're ready to go."

He said the technique has been successful in treating water draining from coal mines operated by the Tennessee Valley Authority, but Mines scientists were unsure if it would work in hard-rock mines.

"The beauty of it is that it works, it's inexpensive, it lasts for a long time, and there is very little upkeep," the scientist said.

Minturn residents last summer demanded that the mine owner, Paramount Communications, install a treatment plant to stop contamination of the Eagle River with heavy metals. A citizens' group has filed a $300 million class-action lawsuit against Paramount over the river pollution, and the Environmental Protection Agency has taken a more active role in oversight of the cleanup project.

The School of Mines' organic treatment method could help reduce Paramount's reported $250,000 annual treatment costs, Cohen said.

He said he has not patented the process, nor does he expect to become rich from it.

"I do this for the sense of discovery," Cohen said. "Today, science is one of the few fields where you can still discover something — all the land and peoples have pretty much been discovered."

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